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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/212,292 | 12/16/1998 | SUNG-GON JUN | P55281 | 8641 |

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| EXAMINER |
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TRAN, HENRY N

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| ART UNIT | PAPER NUMBER |
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2674

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/212,292

Applicant(s)

JUN, SUNG-GON

Examiner

HENRY N TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5 and 9-43 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,2,4,5 and 9-43 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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DETAILED ACTION

1. Applicant's amendments to the specification, the drawings, and the claims have been entered. Claims 1, 2, 4, 5 and 9-43 remain pending in this application. Applicant's arguments, see pages 14-20 of the amendment, filed 6/26/03, with respect to the rejections of claims 1-10 under 35 USC § 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejections are made in view of Berry (U.S. Patent No. 5,150,109), Shiki (U.S. Patent No. 6,292,162), and Kurikko (U.S. Patent No. 5,786,813). The rejection is set forth as follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4, 9-22 and 24-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berry (U.S. Patent No. 5,150,109) in view of Shiki (U.S. Patent No. 6,292,162).

Regarding claims 1, 2, 4 and 9, Berry teaches a flat panel display apparatus having a VGA controller card 10 capable of receiving input video display signals from a host computer using a bus interface 40 for driving a CRT and a flat panel display, the flat panel display apparatus comprising: a receiver 50 (a master video processor 50), a synchronizing signal generator 52 (an oscillator 52), a video data converter (a conversion circuit) comprising circuits

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70, 72, 74, 80 and 84 for converting display signals for driving a flat panel display, and a digital-to-analog converter 58 comprising an output terminal for performing the functional operations defined in the claims 1, 2 and 9, see figs 1-3, col. 3, line 28 to col. 5, line 45. However, Berry does not teach expressly that the input video signal including video data and synchronizing data, a liquid crystal display (LCD) driver, and an LCD. Shiki discloses that input video display signals (picture signals) comprises video data (R, G and B signals) and synchronizing data (H sync and Vsync); and a converter 52, 55 (a signal processor 52 and a timing controller 55) for converting display signals for providing display data to the LCD driver 53, 54 for driving an LCD panel 51, see figs. 4B and 5; col. 3, lines 38-61; col. 4, lines 1-18 and lines 46-61. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Shiki as discussed above with the Berry's flat panel display apparatus because this would provide an improved driving circuit which is simple, inexpensive, and able to accomplish a high quality display, see Shiki, col. 2, lines 1-8. By this rationale, claims 1, 2, 4 and 9 are rejected.

Regarding claims 11-22 and 24-39, Berry also teaches that: the converter is connected between said receiver 50 and said video output DAC 58 for generating display data and synchronizing data modified for a prescribed display mode (a particular flat panel display), see the reference recited above. Shiki also teach the converter 52, 55 is utilized for interpolating or converting line and dots numbers of the video data so as to corresponding to a particular LCD panel, see figs. 13A and 13B; col. 7, lines 8-15. Further, Berry teaches the converter converting display data without using an analog-to-digital converter; and Shiki teaches the converter converting display data without using a phase-locked-loop (PPL). Claims 11-22 and 24-39 are

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dependent upon claims 1, 2 and 9, and are rejected on the same reasons set forth in claims 1, 2 and 9, and by the reasons discussed above.

Regarding claims 10 and 40-43, which are method claims corresponding to the apparatus claims 1, 4, 5, and 11-22, and are rejected on the same basis set forth in claims 1, 4, 5, and 11-22 discussed above.

4. Claims 5 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berry (U.S. Patent No. 5,150,109) in view of Shiki (U.S. Patent No. 6,292,162) (hereinafter referred to as "Berry-Shiki") as applied to claims 1 and 2 above, and further in view of Kurikko (U.S. Patent No. 5,786,813).

Berry-Shiki teaches generally all except: the amplifier, the deflection signal generator, the high voltage generator, and the CRT. Kurikko teaches the use of an amplifier 62, a deflection signal generator 63 and 64, and a high voltage generator 65 for driving a CRT, see fig.

4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the above identified features as taught by Kurikko in the Berry-Shiki device because these features are basic elements required for effectively driving an CRT. Claims 5 and 23 are dependent upon claims 1 and 2, respectively, and are rejected on the same reasons set forth in claims 1 and 2, and by the reasons discussed above.

Response to Arguments

5. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new grounds of rejection.

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Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY N TRAN whose telephone number is 703-308-8410.

The examiner can normally be reached on M-F 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD A HJERPE can be reached on 703-305-4709. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Henry N. Tran

HENRY N TRAN
Primary Examiner
Art Unit 2674

10/14/04